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REMARKS

Claims 1 and 3-20 are pending in this application. By this Amendment, Applicant amends claims 1 and 14.

Applicant thanks the Examiner for his courtesies extended to Applicant's undersigned representative during the personal interview conducted on August 1, 2002. The arguments for patentability presented during the personal interview with the Examiner are embodied in the following paragraphs.

In accordance with the Examiner's request made during the personal interview of August 1, 2002, Applicant encloses a copy of the Declaration and Response to Notice To File Missing Parts filed on December 6, 1999.

Claims 1-3 and 10-17 were rejected under 35 U.S.C. Section 102(b) as being anticipated by Saitoh et al. (U.S. 5,295,487). And, claims 1-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over IEEE Publication to Kawamura et al. in view of Allen et al. (U.S. 5,701,645). Applicant respectfully traverses these rejections.

Claim 1 has been amended to recite:

"A method for manufacturing and screening a piezoelectric transformer apparatus including a piezoelectric member having an actuator and a generator provided in the piezoelectric member, the method comprising the steps of:

beginning manufacturing of the piezoelectric transformer apparatus including the piezoelectric member having the actuator and the generator provided in the piezoelectric member;

connecting a load impedance to said generator;

applying a stress signal to said actuator to vibrate the piezoelectric transformer apparatus;

identifying whether the transformer apparatus has a mechanical latent defect; and

completing the manufacture of the piezoelectric transformer apparatus after the step of identifying whether the transformer apparatus has the mechanical latent defect." (Emphasis added)

Claim 14 recites similar method steps for manufacturing a piezoelectric transformer apparatus.

The Examiner alleged that Saitoh teaches all of the method steps recited in

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claims 1 and 14 of the present application including beginning manufacturing of the transformer apparatus by dicing or bonding; connecting a load impedance to a generator; identifying whether the transformer apparatus has a mechanical defect; and completing manufacturing of the transformer apparatus by assembling each of the transformer apparatuses in a medical diagnostic apparatus.

Applicant respectfully submits that Saitoh does not teach or suggest Applicant's claimed method and instead, teaches an entirely different method. Applicant's method is directed to a method of manufacturing a piezoelectric transformer apparatus including a piezoelectric member having an actuator and a generator provided in the piezoelectric member, in contrast to the method of manufacturing a medical diagnosing apparatus taught by Saitoh.

X (In the method of Saitoh, array-type ultrasonic probes are put into a medical diagnosing apparatus after the array-type ultrasonic probes have been tested. Saitoh clearly teaches that all testing of the array-type ultrasonic probes is performed AFTER the array-type ultrasonic probes have been completely manufactured.

In fact, in col. 20, lines 44-55, Saitoh clearly discloses that "each of the obtained array-type ultrasonic probes was subjected to the actual operation tests of 1000 hours and 30000 hours" (emphasis added). This disclosure in Saitoh clearly indicates that the tests for defects are performed after the array-type ultrasonic probes are completely manufactured, NOT before the completion thereof as recited in claims 1 and 14 of the present application.

The Examiner alleged that, in Saitoh, "assembling each of the transformer apparatuses in a medical diagnosing apparatus" constitutes "completing manufacturing of the transformer apparatus". This is clearly incorrect because the transformer apparatuses must be completely manufactured before the transformer apparatuses can be assembled in the medical diagnosing apparatus.

Accordingly, Applicant respectfully submits that Saitoh clearly fails to teach or suggest the unique combination and arrangement of elements recited in claims 1 and 14 of the present application.

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The Examiner alleged that Kawamura teaches each of the method steps recited in claims 1 and 14, except for the step of testing after the beginning of manufacturing and before the completing of manufacturing of a transformer apparatus. However, the Examiner alleged that Allen teaches "a piezoelectric transformer manufacturing process in which the process begins with manufacturing multiple transformer apparatus and ends with completing the transformer apparatuses by either packaging each transformer apparatus or incorporating each transformer apparatus into other electronic assemblies. In between the steps of beginning and completion of the transformer apparatuses, Allen teaches testing the transformer apparatuses to identify any defective transformer apparatus". Applicant respectfully disagrees.

X (Contrary to the Examiner's allegation, Allen teaches that after the manufacturing of the SAW devices is completed, "individual die 10 are then packaged and tested, including electrical tests, prior to shipping and/or incorporating into electronic assemblies such as radios" (col. 4, lines 28-35) (emphasis added). Shipping the SAW devices and/or incorporating the SAW devices into electronic assemblies clearly cannot be fairly construed as part of the process of manufacturing the SAW devices themselves. In contrast, Allen clearly teaches that the testing for defects in the SAW devices is performed after completion of the manufacturing of the SAW devices. Thus, Applicants respectfully submit that Allen clearly fails to teach or suggest testing a piezoelectric transformer apparatus in between beginning manufacturing and completing manufacturing of the piezoelectric transformer apparatus as recited in the present claimed invention.

Thus, in summary, there is clearly no teaching or suggestion in either Saitoh or in Allen, or any other prior art reference for that matter, of the specific features and steps of Applicant's claimed method including the combination of beginning manufacturing of the piezoelectric transformer apparatus (NOT a medical diagnosing apparatus or electronic assembly such as a radio) including the piezoelectric member having the actuator and the generator provided in the piezoelectric member; identifying whether the transformer apparatus (NOT a medical diagnosing apparatus or electronic assembly

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such as a radio)has a mechanical latent defect; and completing the manufacture of the piezoelectric transformer apparatus (NOT a medical diagnosing apparatus or electronic assembly such as a radio)after the step of identifying whether the transformer apparatus has the mechanical latent defect.

In view of the foregoing Amendments and Remarks, Applicant respectfully submits that Claims 1 and 14 are allowable over the prior art for the reasons described above. Claims 3-13 and 15-20 are dependent upon claims 1 and 14, respectively, and are therefore allowable for at least the reasons that claims 1 and 14 are allowable.

In view of the foregoing Amendments and Remarks, Applicant respectfully submits that this Application is in condition for allowance. Favorable consideration and prompt allowance are respectfully solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. A method for manufacturing and screening a piezoelectric transformer apparatus including a piezoelectric member having an actuator and a generator provided in the piezoelectric member, the method comprising the steps of:

beginning manufacturing of the piezoelectric transformer apparatus including the piezoelectric member having the actuator and the generator provided in the piezoelectric member;

connecting a load impedance to said generator;

applying a stress signal to said actuator to vibrate the piezoelectric transformer apparatus;

identifying whether the transformer apparatus has a mechanical latent defect;
and

✓ completing the manufacture of the piezoelectric transformer apparatus after the step of identifying whether the transformer apparatus has the mechanical latent defect.

14. A method of manufacturing a piezoelectric transformer apparatus including a piezoelectric member having an actuator and a generator provided in the piezoelectric member, the method comprising the steps of:

beginning manufacturing of the piezoelectric transformer apparatus including the piezoelectric member having the actuator and the generator provided in the piezoelectric member;

testing the piezoelectric transformer apparatus for mechanical latent defects; and
g completing manufacturing of the piezoelectric transformer apparatus.